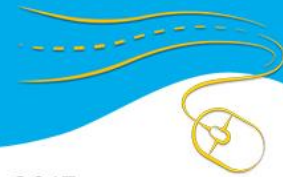




e-CMR

οι οδικές μεταφορές  
στην ψηφιακή εποχή  
going digital  
in road transport



22-23 Ιουνίου 2017

Makedonia Palace, Θεσσαλονίκη



# E-CMR and digital supply chains

**Prof. Dimitrios Vlachos**

Director, Industrial Management Division, Mechanical Engineering Department,

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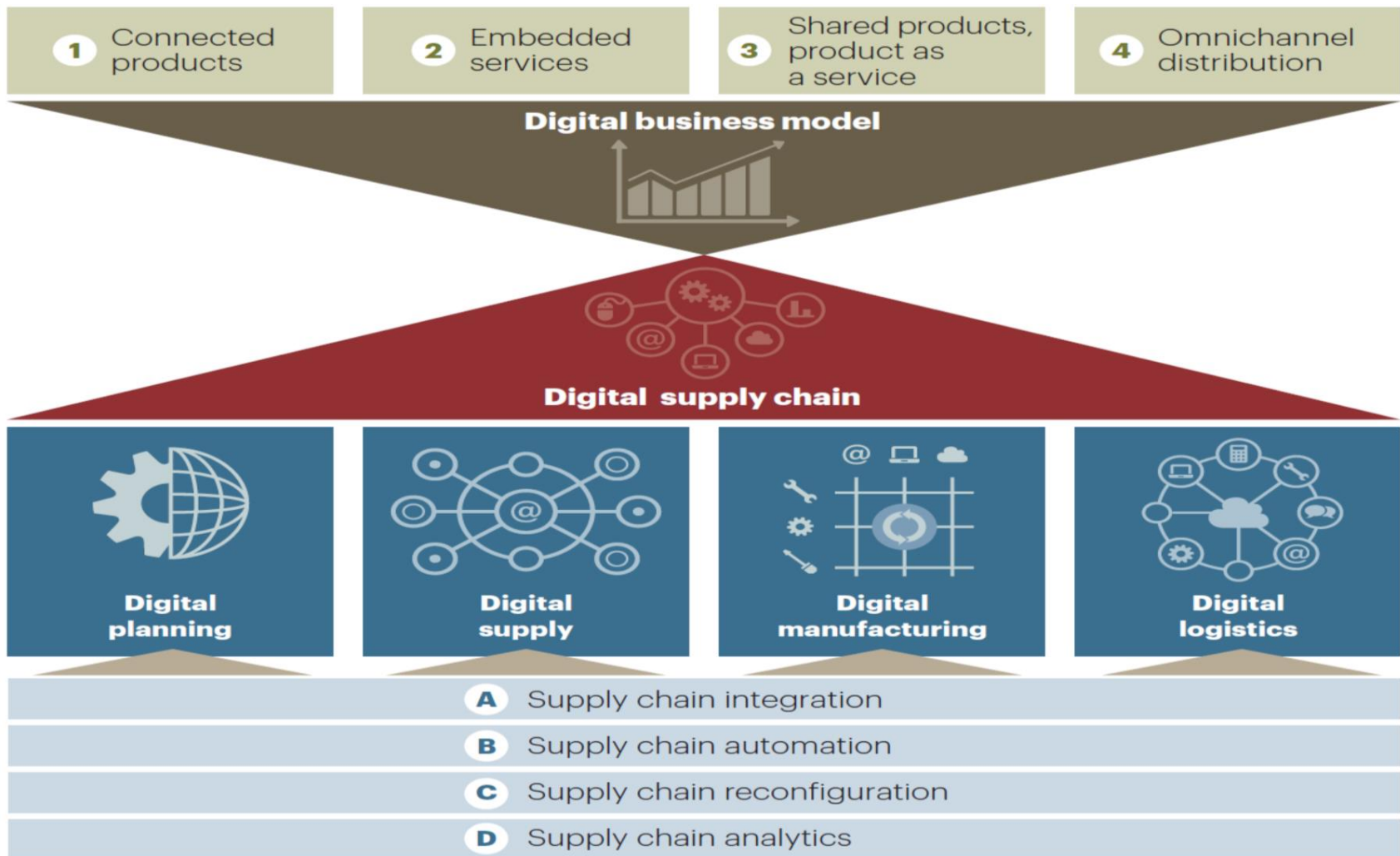
[vlachos1@auth.gr](mailto:vlachos1@auth.gr)

President of the Board, Greek Association of Supply Chain Management (GASCM)

# Agenda

- ▶ Digital Supply Chains
- ▶ Enabling Trade Index: insights
- ▶ Logistics Performance Index: insights
- ▶ Summary

# Digital Supply Chain Network



Source: European A.T. Kearny/WHU Logistics Study 2015

# Supply Chain Levels and Challenges

Areas for digitalization of the business model	Select digital supply chain management levers and challenges	Areas for digitalization of supply chain management	Select digital supply chain management levers and challenges
<b>1</b> Connected products	<ul style="list-style-type: none"> <li>New SCM requirements for smart products (for example, chips in textiles)</li> <li>Shorter lead times and price changes for electronic components</li> </ul>	<b>A</b> Supply chain integration	<ul style="list-style-type: none"> <li>IT integration across all areas of company</li> <li>IT integration with supply chain partners</li> <li>Paperless freight document</li> </ul>
<b>2</b> Embedded services	<ul style="list-style-type: none"> <li>New spare parts and service requirements</li> <li>Setup of online monitoring and second- or third-level support</li> <li>New failure analytics due to more possible reasons outside of own products</li> </ul>	<b>B</b> Supply chain automation	<ul style="list-style-type: none"> <li>Smart packaging informing and acting on conditions of goods inside</li> <li>Radio or GSM tagging and tracing of goods</li> <li>Radio or GSM tagging and tracing of packaging and containers</li> <li>Smart labels communicating with each other, creating decentralized optimization intelligence</li> <li>Robots and autonomous vehicles</li> </ul>
<b>3</b> Shared products, product as a service	<ul style="list-style-type: none"> <li>Disposition and capacity management of rented products</li> <li>Product and product parts monitoring and replacement planning</li> <li>Logistics for relocation, maintenance, refurbishing, and repair</li> <li>Product software management, including firewalls</li> </ul>	<b>C</b> Supply chain reconfiguration	<ul style="list-style-type: none"> <li>3D printing and additive manufacturing</li> <li>E-platforms for direct carrier selection and transactions</li> <li>Use of app-based e-platforms for express and parcel courier deliveries</li> </ul>
<b>4</b> Omnichannel distribution	<ul style="list-style-type: none"> <li>Direct sales (bypassing wholesalers or via online) to users and consumers, with smaller lot sizes and different central and regional storage requirements</li> <li>Cross-border selling, partially with own customs solutions</li> </ul>	<b>D</b> Supply chain analytics	<ul style="list-style-type: none"> <li>Big data analytics for SCM improvement</li> </ul>

Source: European A.T. Kearny/WHU Logistics Study 2015

# Economist Intelligence Unit Survey (2006): The challenges...

## 1. What do you consider to be the greatest risks of automating your company's global supply chain?

Select 3 options (% respondents)

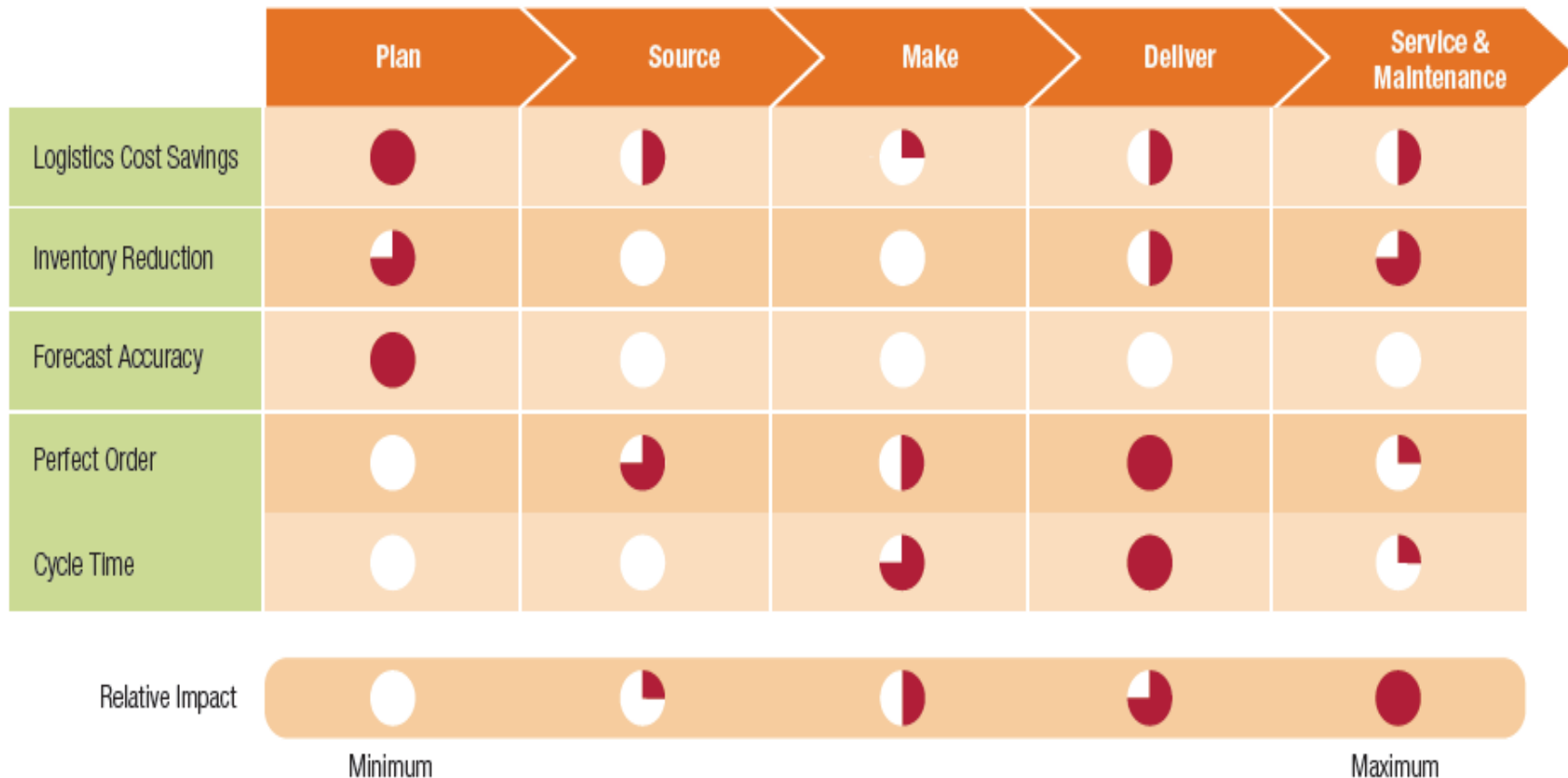


## 7. What do you consider to be the greatest impediments to the implementation of a fully automated global supply chain for your company?

Select 3 options (% respondents)



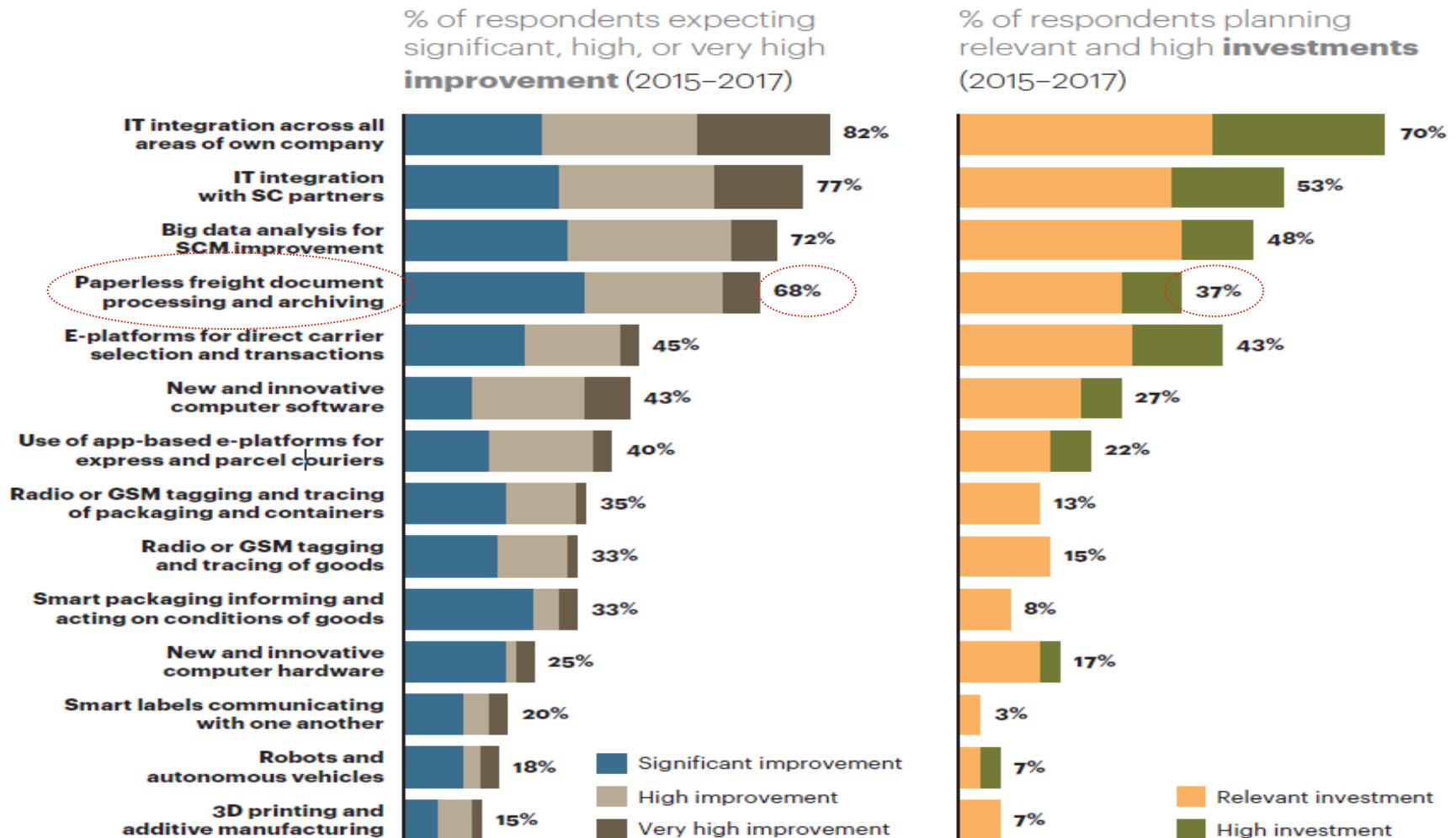
# Impact of Digital Technologies across Supply Chain Processes



Source: Capgemini Consulting

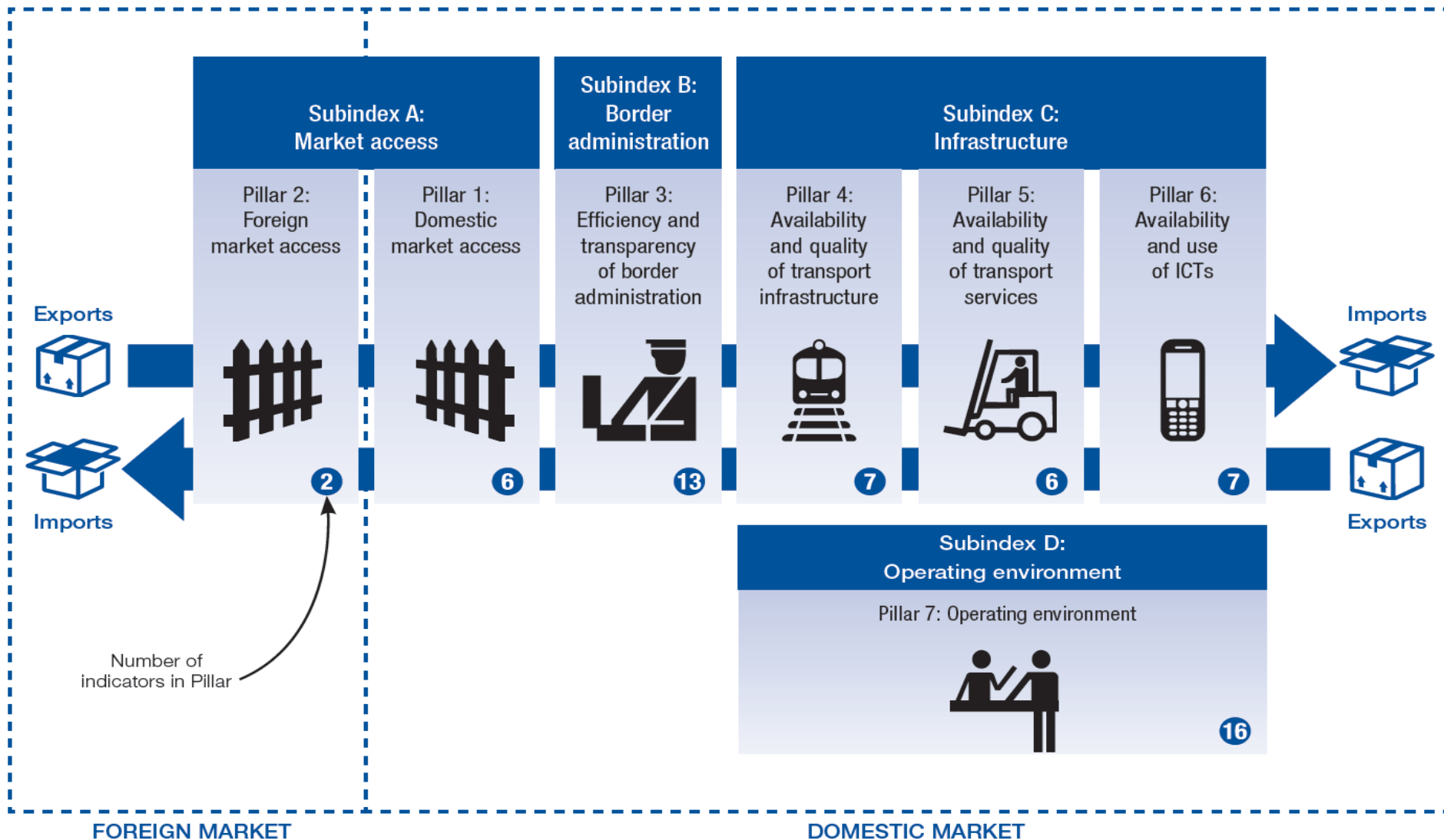


# Digital levers worth investing in for the supply chain



Source: European A.T. Kearny/WHU Logistics Study 2015

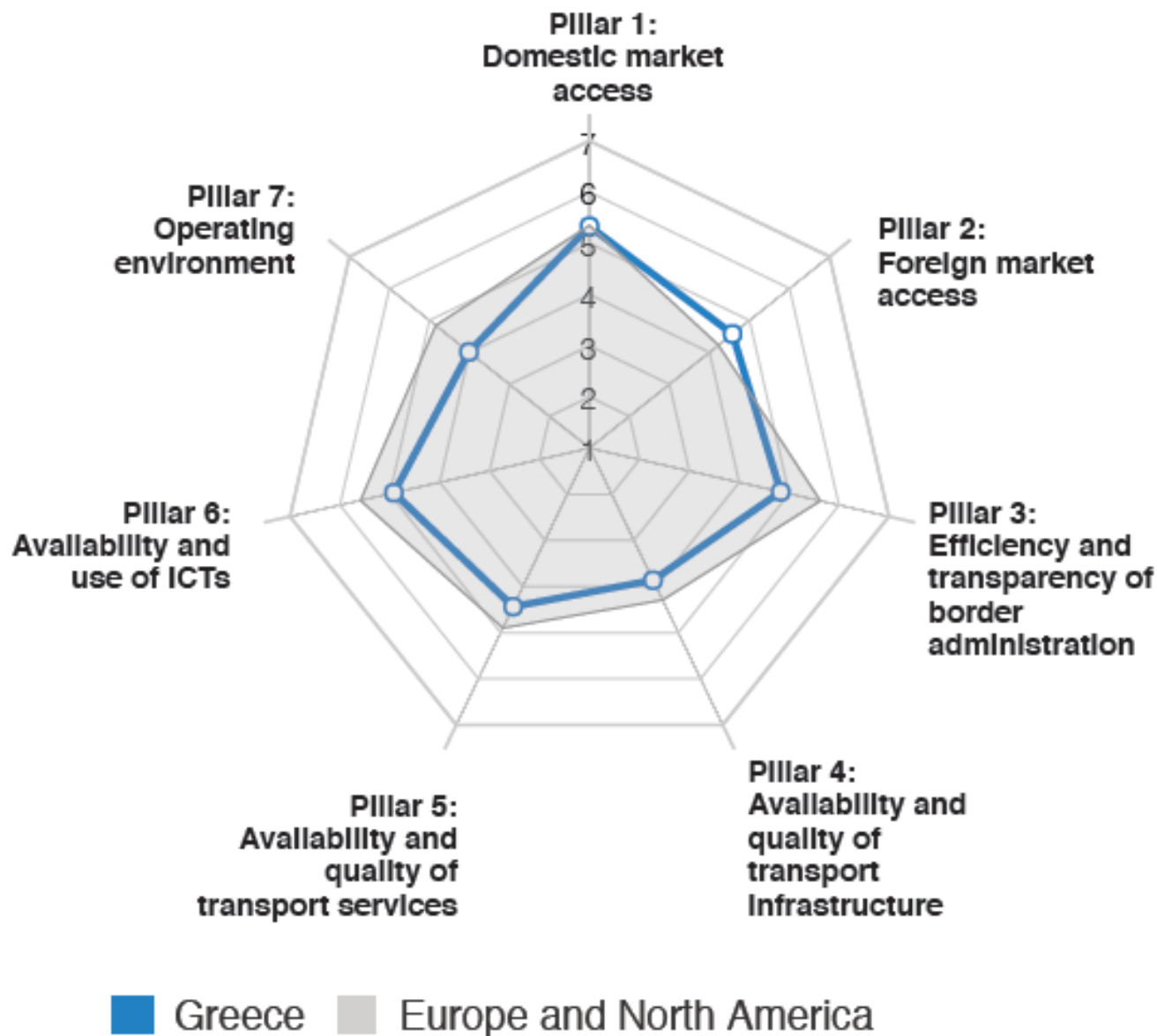
# The Enabling Trade Index Framework












Source: The Global Enabling Trade report, World Economic Forum, 2016












# Greece: Enabling trade performance overview










# Greece: Enabling trade performance

	Rank / 136	Value	Trend
 <b>Pillar 4: Availability and quality of transport infrastructure</b>	<b>50</b>	<b>3.9</b>	
4.01 Available airline seat kilometres millions	32	715.0	
4.02 Quality of air transport infrastructure	42	4.9	
4.03 Quality of railroad infrastructure	62	2.8	
4.04 Liner Shipping Connectivity Index 0–157.1 (best)	31	47.4	
4.05 Quality of port infrastructure	46	4.5	
4.06 Road quality index	62	5.0	
4.07 Quality of roads	58	4.3	

	Rank / 136	Value	Trend
 <b>Pillar 5: Availability and quality of transport services</b>	<b>51</b>	<b>4.4</b>	
5.01 Ease and affordability of shipment 1–5 (best)	64	3.0	
5.02 Logistics competence 1–5 (best)	60	2.9	
5.03 Tracking and tracing ability 1–5 (best)	<b>30</b>	3.6	
5.04 Timeliness of shipments to destination 1–5 (best)	34	3.8	
5.05 Postal service efficiency	45	5.1	
5.06 Efficiency of transport mode change	96	3.5	

	Rank / 136	Value	Trend
 <b>Pillar 6: Availability and use of ICTs</b>	<b>56</b>	<b>4.9</b>	
6.01 Mobile-cellular telephone subscriptions /100 pop.	72	114.0	
6.02 Internet users % pop.	53	66.8	
6.03 Fixed-broadband Internet subscriptions /100 pop.	19	30.7	
6.04 Mobile-broadband subscriptions /100 pop.	73	45.6	
6.05 ICT use for biz-to-biz transactions	<b>97</b>	4.3	
6.06 Internet use for biz-to-consumer transactions	82	4.2	
6.07 Government Online Service Index 0–1 (best)	71	0.58	

	Rank / 136	Value	Trend
 <b>Pillar 7: Operating environment</b>	<b>91</b>	<b>4.0</b>	
7.01 Protection of property	67	4.2	
7.02 Efficiency and accountability of public institutions	107	3.2	
7.03 Access to finance	133	2.4	
7.04 Openness to foreign participation	51	4.6	
7.05 Physical security	56	5.6	

# Supply Chains and National Logistics Systems

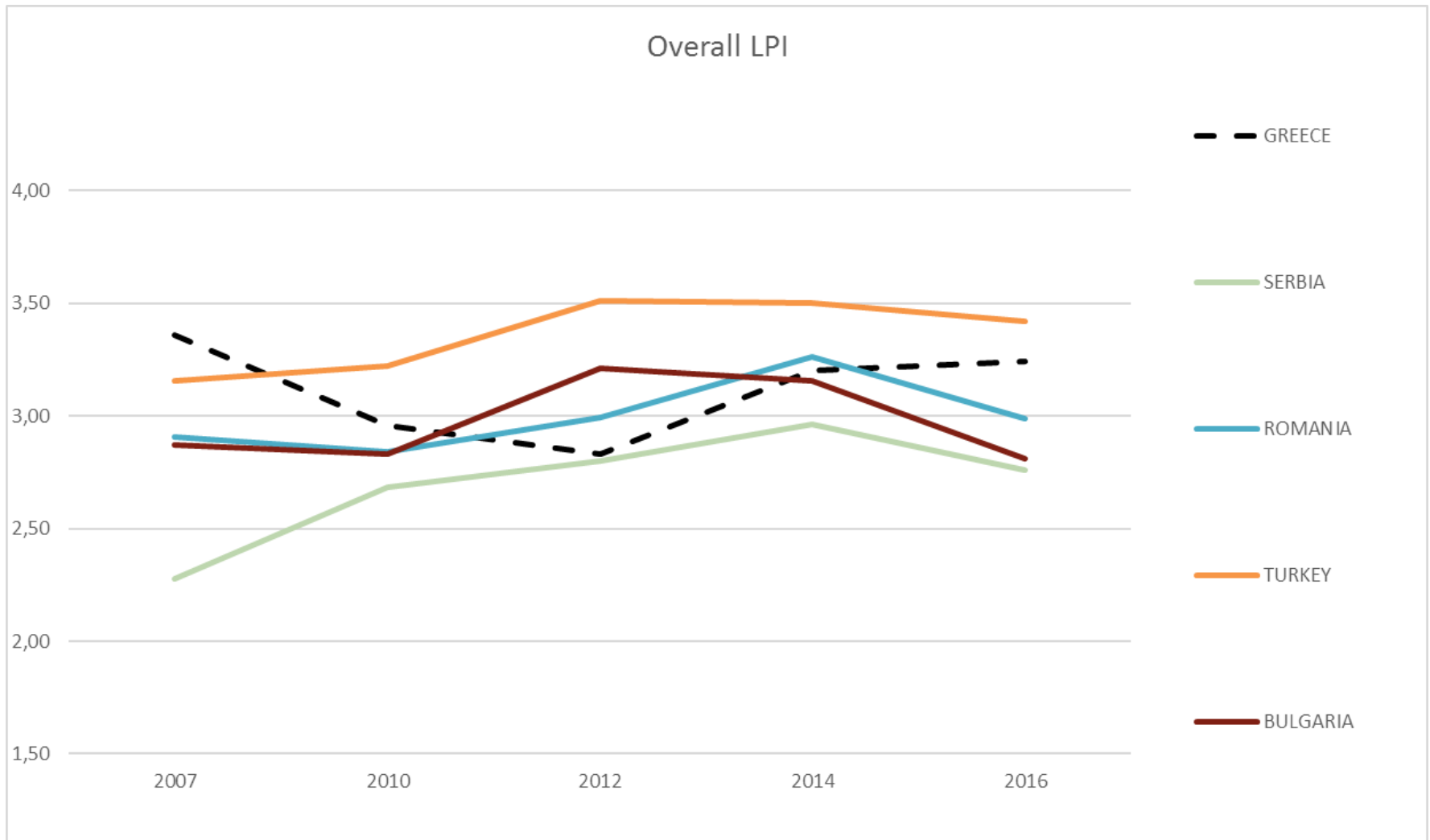
- ▶ Ability to connect to the “physical internet” is becoming a key determinant of a country’s competitiveness
  - ▶ Providing access to vast new markets
- ▶ For those with weak logistics connection to global supply chain networks the costs of exclusion are becoming increasingly devastating...

# The Logistics Performance Index

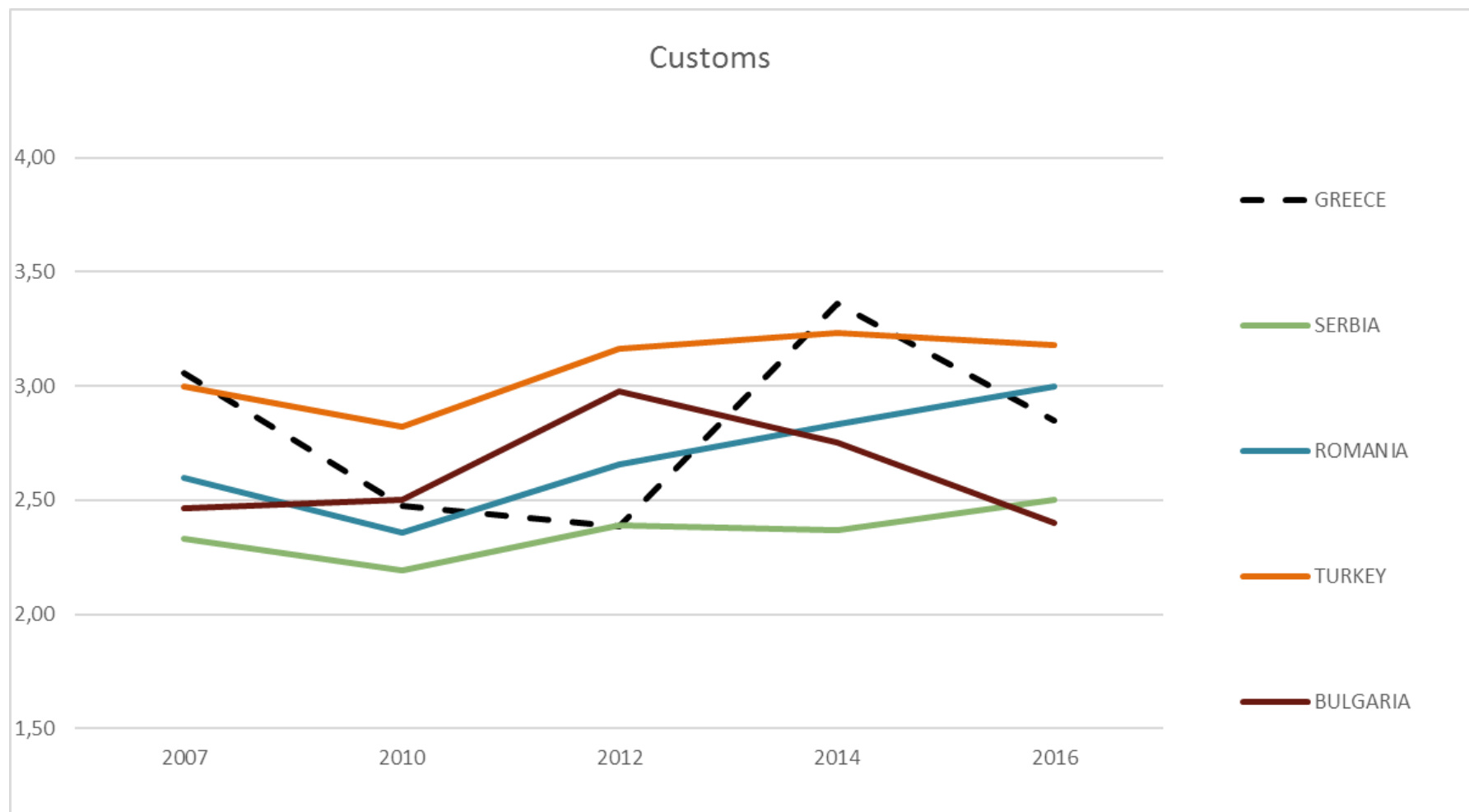
- ▶ Captures comprehensively supply chain performance:
  - Customs procedures, logistics costs, infrastructure quality
  - Ability to track and trace shipments
  - Timeliness in reaching Destination
  - Competence of Private and Public Logistics Service Providers
  - Customs-Border Agencies
  - Transparency-Corruption
  - Supply Chain Reliability.

*Source: "Connecting to Compete : Trade Logistics in the Global Economy", International Bank for Reconstruction and Development, World Bank, 2007, 2010, 2012, 2014 & 2016*

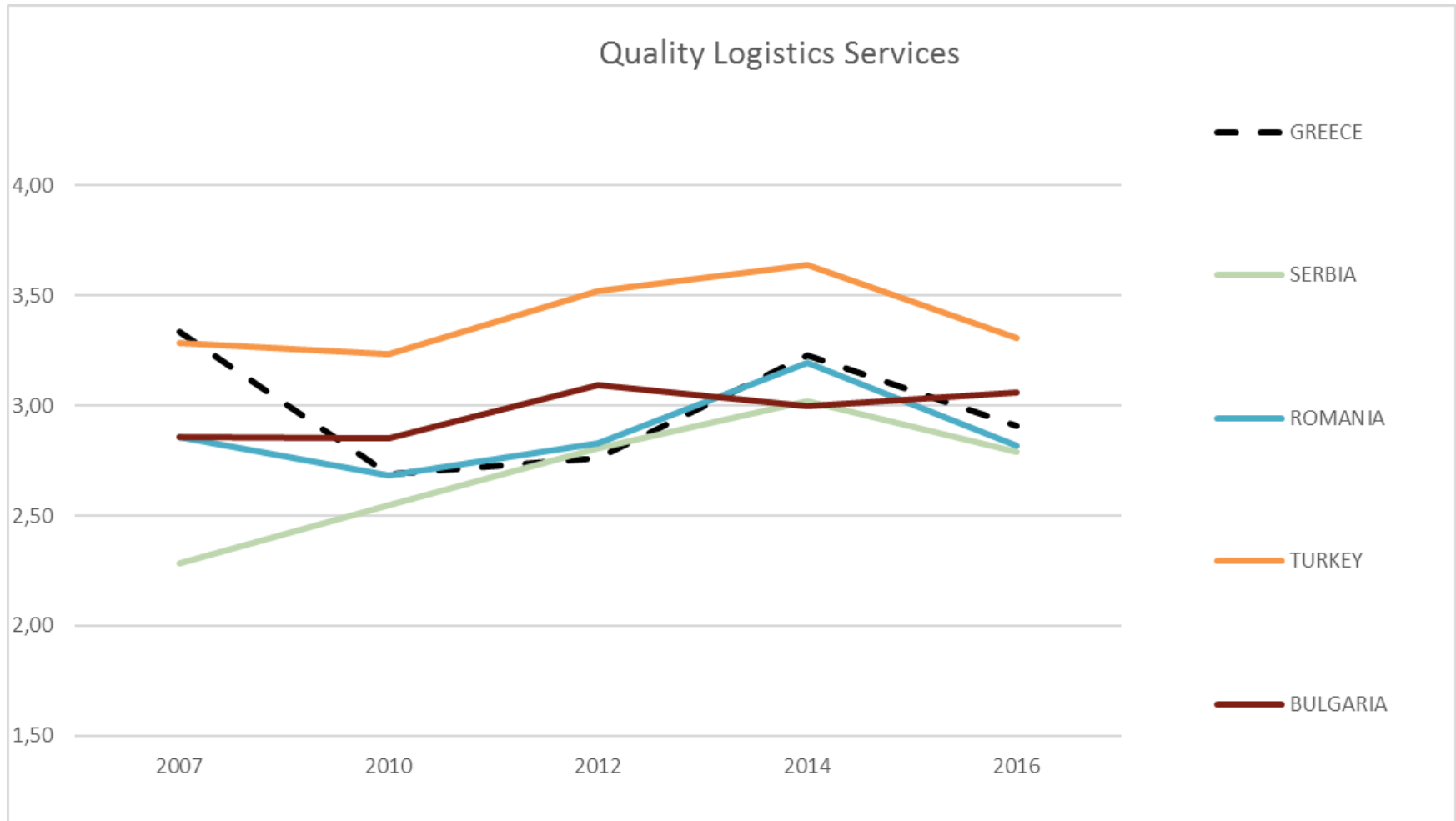
# Logistics-related Performance: Overall LPI



# Logistics-related Performance: Customs

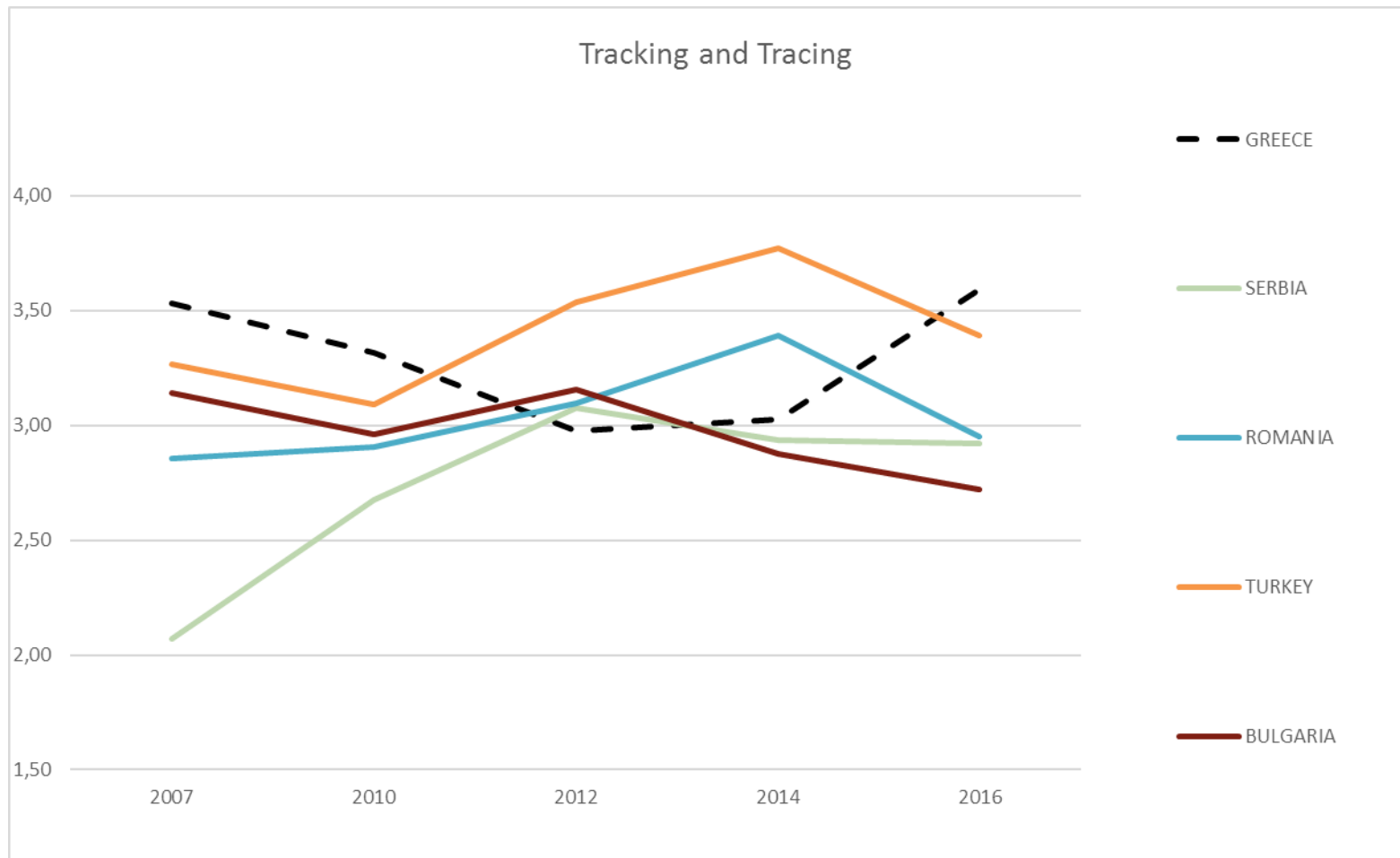


# Logistics-related Performance: Quality of Logistics Services

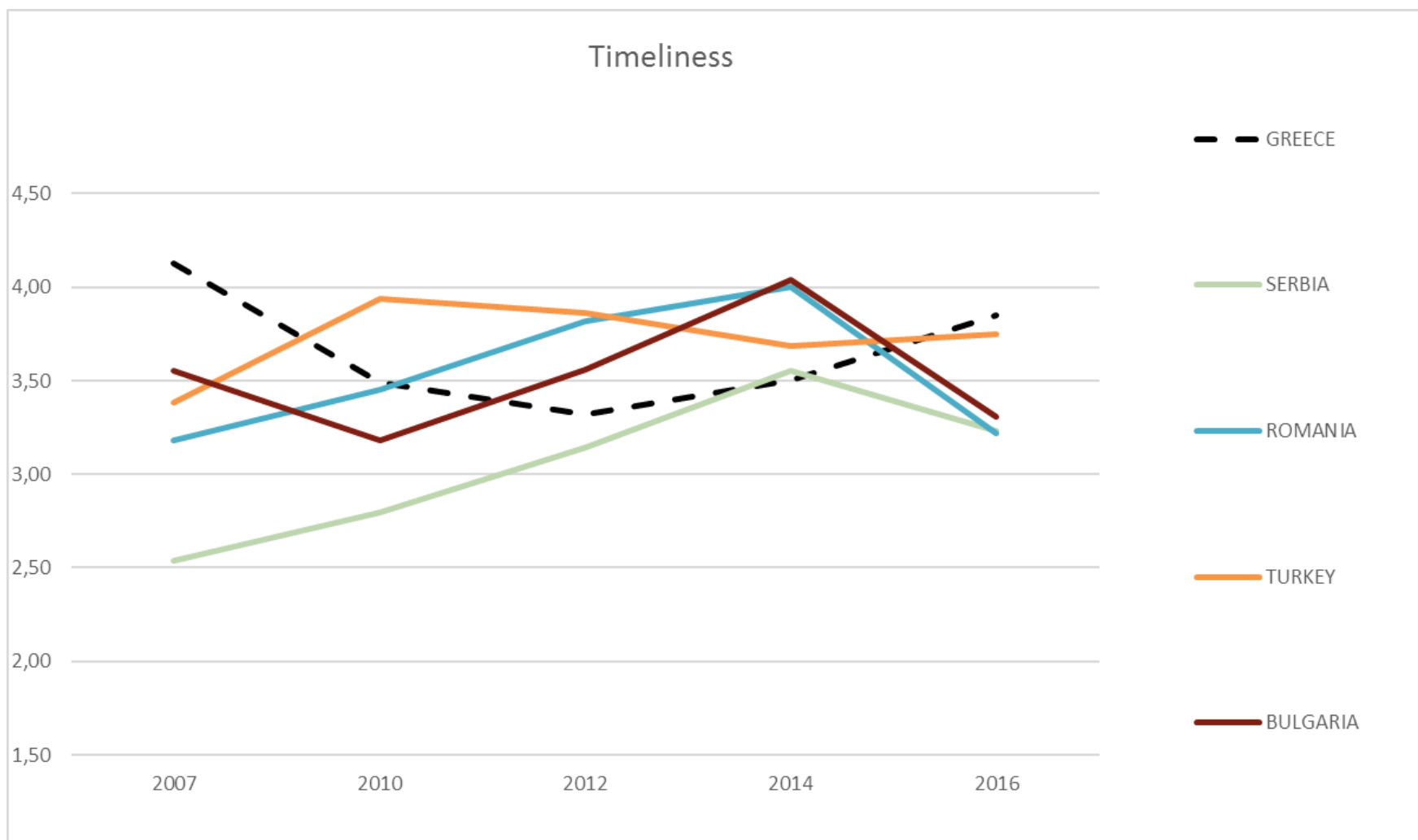




# Logistics-related Performance: Tracking and Tracing



# Logistics-related Performance: Timeliness



# In conclusion...

## ▶ ***Greater Productivity***

- ▶ Going paperless saves a lot of time as employees aren't tasked with filling paperwork.

## ▶ ***Speed and Responsiveness***

- ▶ Paperless systems help eliminate delays that take place while paperwork moves through the process.

## ▶ ***Security and Compliance***

- ▶ Paperless systems solve data integrity issues automatically and help get rid of any problems with regulatory compliance due to misfiled papers.

## ▶ ***Supports Lean Initiatives***

- ▶ Automated processes help eliminate hard work and waste thus saving time and resources, improving order cycle times and advancing overall productivity.

## ▶ ***Environmentally Friendly***

- ▶ Automated processes help save trees, as well as money on printers, toners and space.

# 21<sup>ο</sup> Πανελλήνιο Συνέδριο Logistics

Θεσσαλονίκη 24-25 Νοεμβρίου 2017

## Θεματικές Ενότητες

- ▶ Ανάπτυξη Λιμένων ως Κόμβων Διεθνών Εφοδιαστικών Αλυσίδων
- ▶ Green Logistics και Διαχείριση Πράσινων Εφοδιαστικών Αλυσίδων
- ▶ Βέλτιστες Πρακτικές και Σύγχρονες Προκλήσεις στη Διαχείριση Εφοδιαστικών Αλυσίδων
- ▶ Logistics και Διεθνές Εμπόριο
- ▶ Εφοδιαστικές Αλυσίδες Τροφίμων
- ▶ Καινοτομία και Τεχνολογία στα Logistics.
- ▶ Θαλάσσιες Μεταφορές και Διοίκηση Λιμένων
- ▶ Εμπορευματικά Κέντρα / Κόμβοι Διατροπικών (Intermodal) Μεταφορών
- ▶ Τεχνολογία και Logistics



# Thank you for your attention.

## Any questions?

Prof. Dimitrios Vlachos

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